

CLIMATE NEWS

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Mountaintop Mining Turns Carbon Sinks into Sources



According to a recent study published in *Environmental Research Letters*, Appalachian mountaintop-removal coal mining is destroying the region's natural ability to absorb heat-trapping carbon dioxide (CO₂) emissions and creating another source of emissions linked to climate change. Citing modeling of historical mining rates, the researchers argue that strip-mine reclamations that create grasslands, coupled with the natural regrowth of unmined forested areas, will cause southern Appalachian forests to switch from being net carbon sinks to net carbon sources between 2025 and 2033. The study focused on forests in southern West Virginia and parts of Kentucky, Virginia, Ohio, and Tennessee. According to the study "These results suggest that while power plant stack emissions are the dominant life-cycle stage in coal-fired electricity, accounting for mountaintop coal mining in bottom-up inventories may be a critical component of regional carbon budgets." University of California Merced Professor Elliot Campbell, a co-author of the study, said that the drastic damage from mountaintop-removal mining "makes clear-cutting forest look mild [because] there's no reclamation, and the ability of those areas to support life is dramatically altered." (*Greenwire/Environ. Res. Lett.* 7 045701)

Government Risks Financial Exposure from Climate Change

For the first time, the non-partisan Government Accountability Office (GAO) added climate change to its biennial "High Risk List" of programs and operations the agency considers at high risk for waste, fraud, abuse and mismanagement, or that need broad-based transformation. "Climate change is a complex, crosscutting issue that poses risks to many environmental and economic systems—including agriculture, infrastructure, ecosystems, and human health—and presents a significant financial risk to the federal government," said the agency. "GAO added this area because the federal government is not well positioned to address the fiscal exposure presented by climate change and needs a government-wide strategic approach with strong leadership to manage related risks." GAO noted that the federal government owns extensive infrastructure, including military bases; insures property through the National Flood Insurance Program; and provides aid to victims of natural disasters, making it especially vulnerable to the effects of climate change. (*Reuters*)

Shellfish Industry Threatened by Ocean Acidification

Carbon pollution is causing ocean waters to become corrosive so quickly that scientists say there may not be oysters left to eat in coming decades. Oceans have absorbed about 25% of global CO₂ emissions, which has increased acidity. Surface water pH has long been a basic or alkaline 8.2, but it now averages about 8.1. That may sound minor, but pH is a logarithmic scale, so this translates into a 30% change in acidity. By the end of this century, surface water pH could drop to 7.8 or below. Calcifiers—organisms with calcium carbonate shells and skeletons—appear to be in trouble. Scientists have seen dissolving clam larvae in Maine, corroded oysters in Washington's hatcheries, and mussels with thinned shells off the Pacific Northwest. Federal money has helped hatcheries install sophisticated pH and CO₂ monitors, and NOAA is exploring more permanent adaptation strategies for hatcheries and shellfish beds. However, the best near-shore solution can't stop the oceanwide pH drop. Even with a dramatic decrease in CO₂ emissions, ocean acidification is predicted to worsen for the next 30 to 50 years, given how long CO₂ stays in the atmosphere. (*Slate*)

Defense Experts Predict Staggering Costs of Climate Change

Climate change poses a serious threat to U.S. security interests and will have devastating effects unless immediate action is taken, a bipartisan group of 38 former politicians and military officials wrote in a recent letter. "Potential consequences are undeniable, and the cost of inaction, paid for in lives and valuable U.S. resources, will be staggering," the letter says. The signatories included retired generals and admirals, leaders of the 9/11 Commission, and former lawmakers and Cabinet members from both parties, including recently retired Senators Lugar, Lieberman, and Snowe. Former CIA Director James Woolsey said that political stagnation in the face of growing energy needs and compounding effects of climate change "is going to put us into a situation in which we have a number of national security issues that are going to come cascading down on us together." Former Rep. Wayne Gilchrest said the main barrier to action is knowledge. "The science is clear. The way forward is education for both our political leaders and the masses." (*ClimateWire*) 